



Appl. No. 09/741,672  
Amendment/Response  
Reply to Final Office action of 4 November 2004

Page 1 of 1

**IN THE UNITED STATES PATENT AND TRADEMARK  
OFFICE**

Appl. No. : 09/741,672  
Applicant(s) : BUIJSSE, Bart  
Filed : 19 December 2000  
Title : X-RAY MICROSCOPE HAVING AN X-  
RAY SOURCE FOR SOFT X-RAYS.  
TC/A.U. : 2882  
Examiner : YUN, Jurie  
Atty. Docket : PHQ 99,015

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On: 3-3-05

By: John C Fox

**PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)**

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P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant hereby petitions for an extension of one (1)  
month to respond to the Office action mailed on 4 November  
2004; because of this extension the time period for response  
will expire on 4 March 2004. Filed herewith is an amendment in  
response to the Office action.

Please charge Deposit Account No. 501,850 in the amount of  
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13/03/2005 HAL111 00000001 501850 09741672

11 FC:1251 120.00 DA

Adjustment date: 05/26/2005 SDENBOB1  
03/09/2005 HAL111 00000001 501850 09741672  
01 FC:1251 120.00 CR

Respectfully submitted,

John C Fox

John C. Fox, Reg. 24,975  
Consulting Patent Attorney  
203-329-6584

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

BART BUIJSSE

Serial No. 09/741,672

Filed: December 19, 2000

X-RAY MICROSCOPE HAVING AN X-RAY SOURCE FOR SOFT X-RAYS

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P.O. Box 1450

Honorable Commissioner for Patents

Alexandria, VA 22313-1450

Atty. Docket

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PHQ 99-015

Group Art Unit: 2882

Examiner: Jurie Yun

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On: March 29, 2005

By: Charm DeLucy

REQUEST FOR REFUND

Sir:

The Final Office action dated November 4, 2004 for the above-identified patent application was mistakenly mailed to:

Jack E. Haken  
U.S. Philips Corporation  
580 White Plains Road  
Tarrytown, NY 10591

As a result of this mistake, the Office Action was not received by Applicant until February 22, 2005, which is after the due date of February 4, 2005.

In consequence, Applicant's response to the Office Action included a Petition for a one-month extension. However, since the delayed receipt of the Office Action was due to a mistake of the Patent Office, Applicant respectfully requests a refund for the one-month extension fee of (\$120.00) to Deposit Account No. 14-1270.

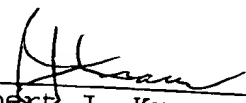
Enclosed is the Petition for Extension of Time, Letter, Notice of Customer Number Record Change, Details for Customer Number 24737, copy of the Amendment under 37 CFR 1.113 and/or 116 which were all filed with the U.S. Patent and Trademark Office on March 3, 2005.

All future correspondence should be directed to:

Philips Electronics North America  
P.O. Box 3001  
Briarcliff Manor, NY 10510

which is the address associated with our Customer Number 24737.

Respectfully submitted,

By   
Robert J. Kraus, Reg. 26,358  
Attorney  
(914) 333-9634

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On: 3-3-05

By: John C Fox

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

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Commissioner for Patents  
P.O. Box 1450  
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deposit Account No. 501,850.

Respectfully submitted,

John C Fox

John C. Fox, Reg. 24,975  
Consulting Patent Attorney  
203-329-6584

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Appl. No. 09/741,672  
Letter

Page 1 of 2

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PATENT AND TRADEMARK OFFICE

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Office at 703-872-9318.

On: 3-3-05

By: John C. Fox

LETTER

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PO Box 1450  
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Sir:

Copies of a NOTICE OF CUSTOMER NUMBER RECORD CHANGE and  
PATENT APPLICATION INFORMATION RETRIEVAL sheet entitled  
'Details for Customer Number: 24737', attached hereto, show the  
correct correspondence address for the subject application as:

Philips Intellectual Property & Standards  
P.O. Box 3001  
Briarcliff Manor, NY 10510

The Final Office action for the subject application was  
mistakenly mailed to:

Jack E. Haken

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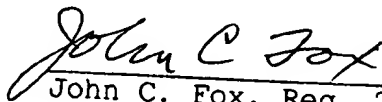
U.S. Philips Corporation  
580 White Plains Road  
Tarrytown, NY 10591

As a result of this mistake, the Office Action was not received until 22 February 2005, which is after the due date of 4 February 2005.

In consequence, Applicant's accompanying response to the Office action includes a petition for a one-month extension. However, since the delayed receipt of the Office action is due to a mistake of the Patent Office, Applicant intends to request a refund of the extension fee.

Kindly direct future correspondence to the correct address.

Respectfully submitted,

  
John C. Fox, Reg. 24,975  
Consulting Patent Attorney  
203-329-6584

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P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

FAX: 914-332-0615

E-MAIL:

PHONE: 914-332-0222

Date Mailed: 12/18/2003

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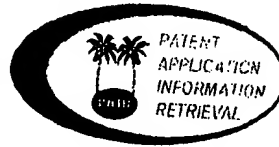
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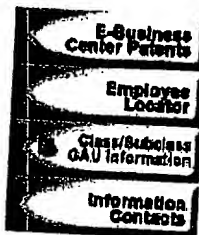
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Associated Individuals:	22861 BARTLETT, ERNESTINE 26236 SLOBOD, JACK 26358 KRAUS, ROBERT 26531 BIREN, STEVEN 26902 HAKEN, JACK 28613 GOODMAN, EDWARD 28923 YORKS, W JR 30245 BLOCKER, EDWARD 31287 PETERSEN, STEVEN 32266 MARION, MICHAEL 32603 WIEGHAUS, BRIAN 33357 BELK, MICHAEL 35721 TSIANG, HAROLD 35873 FRY, JOHN 36921 SCHMITT, MICHAEL 37595 CHO, KENNETH 39398 THORNE, GREGORY 39703 HALAJIAN, DICRAN 40007 GROSS, RUSSELL 42079 PIOTROWSKI, DANIEL 42080 PIOTROWSKI, TONY 43305 ZAWILSKI, PETER 48027 WAXLER, AARON 48979 LUNDIN, THOMAS 50145 KEEGAN, FRANK

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Appl. No. 10/179,314  
Amendment/Response  
Reply to non-Final Office action of 10 June 2003

Page 1 of 7

IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE

5 Appl. No. : 09/741,672  
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On: 3-3-05

By: John C Fox

AMENDMENT and/or RESPONSE under 37 CFR §1.113 and/or 116

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20 PO Box 1450  
Alexandria, VA 22313-1450

Sir:

25 In response to the Final Office action of 4 November  
2004, please amend the application and/or reconsider the  
application in light of the following remarks.

This paper includes (each beginning on a separate sheet):

- 30 1. Listing of the Claims;  
2. Remarks/Discussion of Issues.

35

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Listing of Claims:

This listing of claims will replace all prior versions, and  
5 listings, of claims in the application:

1. (Currently amended) An X-ray microscope which includes a  
device for generating X-rays, which device is provided with:
- 10 • means for producing a fluid jet having a curvilinear  
cross-section,
  - means for forming a focused radiation beam whose focus  
is situated on the fluid jet,  
said focused radiation beam comprising a beam of electrically  
charged particles.

15

2. (Previously presented) An X-ray microscope as claimed in  
Claim 1, wherein the beam of electrically charged particles  
comprises an electron beam.

20 3. (Previously presented) An X-ray microscope as claimed in  
Claim 1, wherein the cross-section of the fluid jet in the  
direction of the focused beam is smaller than that in the  
direction transversely thereof.

25 4. (Previously presented) An X-ray microscope as claimed in  
Claim 1, wherein the fluid jet consists essentially of liquid  
oxygen or nitrogen.

30 5. (Previously presented) An X-ray microscope as claimed in  
Claim 1, wherein the means for producing a focused beam of  
electrically charged particles comprises an electron gun for

a cathode ray tube, the X-ray microscope including a condenser lens disposed between the fluid jet and an object to be imaged by means of the X-ray microscope.

- 5 6. (Currently amended) An electron microscope for producing a focused electron beam and including a device for generating X-rays,

said device including:

- 10
- means for producing a fluid jet having a curvilinear cross-section,
  - means for directing the focus of the electron beam onto the fluid jet.

- 15 7. (Previously presented) An electron microscope as claimed in Claim 6 and including an X-ray microscope, said device for generating X-rays acting as the X-ray source for the X-ray microscope.

- 20 8. (Previously presented) An electron microscope as claimed in Claim 6, the electron microscope being a scanning electron microscope.

REMARKS/DISCUSSION OF ISSUES

The Examiner's acceptance of the drawings, acknowledgement of receipt of the claim for priority and receipt of the certified copies, and withdrawal of the objection to claim 5 are acknowledged with appreciation.

Claims 1-8 are pending in the application. Claims 1-8 are rejected.

Claims 1-3 and 6-8 are rejected under 35 USC 103(a) as being unpatentable over Wang (U.S. patent 5,044,001) in view of Smither et al. (U.S. patent 4,953,191) (herein 'Smither').

Wang shows an x-ray microscope, but does not show an x-ray source comprised of a fluid jet and a focused radiation beam of charged particles.

Smither shows an x-ray source comprised of a stream of liquid gallium and a stream of electrons.

In response to Applicant's previous arguments that Smither's stream of liquid gallium is not a jet, the Examiner has responded that Smither's stream is a jet because it meets the McGraw Hill Dictionary definition of 'a strong, well-defined stream of liquid, issuing from an orifice or nozzle or moving in a contracted duct', citing col. 4, lines 26-30 of the reference.

To find the meaning of terms used in a patent application, the first source is the specification itself. On page 1, lines 6-9 of Applicant's specification, it is stated:

A device for generating soft X-rays is known from the published patent application WO 97/40650 (PCT/SE 97/00697). The means for producing a fluid jet in the known device are formed by a nozzle wherefrom a fluid such as water is ejected under a high pressure.

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WO 97/40650 describes the formation of a jet on page 6, lines 24-34, as follows:

For the forming of microscopic and spatially stable jets of liquid in vacuum, use is here made of a spatially continuous jet 17 of liquid, which forms in a vacuum chamber 8 as is evident from Fig. 2. The liquid 7 is urged under high pressure (usually 5-100 atmospheres) from a pump or pressure vessel 14 through a small nozzle 10, the diameter of which usually is smaller than about 100Hm and typically one or two up to a few tens of micrometers. This results in a stable microscopic jet 17 of liquid of essentially the same diameter as the nozzle 10 and a speed of about 10-100 m/s.

Since the jet is formed by a nozzle having a diameter, and the jet itself has the same diameter as the nozzle, it is clear that the jet has a circular or nearly circular cross-section.

Applicant's specification provides three examples of jets. These are illustrated in cross-section in Figs. 1a, 1b and 1c. In Figs. 1a, 1c, the cross-section of the jet is circular. In Fig. 1c, the cross-section of the jet is elliptical. Thus, Applicant's jet is characterized by having a curvilinear cross-section.

In contrast, Smither's stream is described as being flat. See, e.g., col. 3, line 2. In order to attain this configuration, Smither employs a distribution head (22), not a nozzle, and a stainless steel plate (14) across which the stream (16) flows. See col. 4, lines 8-10.

As can be seen from Fig. 1 of Smither, the distribution head has a rectilinear cross-section, not a curvilinear cross-section, and directs the stream onto the plate. Consequently the stream is flat, not curvilinear.

To make this distinction more clear, claims 1 and 6 are currently amended to call for the jet to have a curvilinear cross-section. Support for these amendments is clearly provided

by Figs. 1a, 1b, 1c and by the related descriptive portions of the specification, e.g., page 4, line 10 through page 5, line 5.

Moreover, Smither does not teach or suggest to focus a radiation beam on the stream. As shown in Fig. 1, and described at col. 4, lines 5 and 6, Smither's beam emanates from a slit in the form of a flat stream of parallel beams (18), oriented transversely to the stream, so as to irradiate a substantial portion of the width of the stream. The parallel beams do not meet or even converge. Thus, the beam is not focused.

Accordingly, Smither fails to teach or suggest an x-ray source comprised of a radiation beam focused on a fluid jet, and thus the combination of Smither and Wang fails to teach or suggest an x-ray microscope incorporating such a source.

The rejection is therefore in error and should be withdrawn.

Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Wang in view of Smither as applied above, and further in view of Berglund et al. (Rev. Sci. Instrum. 69, 2361, 1998) (herein 'Berglund').

Berglund discloses a liquid jet target for an x-ray source. The liquids disclosed include nitrogen, oxygen, neon, argon or xenon. X-rays are formed by focusing a laser beam on the liquid jet.

Thus, Berglund fails to teach or suggest the use of a focused radiation beam of charged particles. Since this limitation is incorporated into claim 4 by dependency, claim 4 is patentable over the combination of Wang, Smither and Berglund, and the rejection should therefore be withdrawn.

Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Wang in view of Smither as applied above, and

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further in view of Iketaki et al. (U.S. patent 5,835,262) (herein 'Iketaki').

Iketaki discloses an x-ray microscope (Fig. 7) including a source (21-23), a sample (27) and a condenser lens (24) between the source and the sample.

However, claim 5 calls for the source of charged particles to comprise an electron gun for a cathode ray tube, as well as calling for a condenser lens disposed between the source and the sample.

Iketaki does not disclose a source of charged particles of any kind, but rather discloses a source of laser radiation (21).

Accordingly, it is urged that claim 5 is patentable over the combination of Wang, Smither and Iketaki, and that the rejection should be withdrawn.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of record, allow all the pending claims, and find the application to be in condition for allowance.

Respectfully submitted,

*John C. Fox*

John C. Fox, Reg. 24,975  
Consulting Patent Attorney  
203-329-6584